

Architectural Thesis

T E X T

Architecture

B. S.

1909

UNIVERSITY OF ILLINOIS
LIBRARY

Class

1909

Book

Ar 2

Volume

Ja09-20M

The person charging this material is responsible for its return to the library from which it was withdrawn on or before the **Latest Date** stamped below.

Theft, mutilation, and underlining of books are reasons for disciplinary action and may result in dismissal from the University.

UNIVERSITY OF ILLINOIS LIBRARY AT URBANA-CHAMPAIGN

BUILDING USE ONLY

SEP 30 1975

BUILDING USE ONLY
SEP 30 1975
SEP 30 1975

L161—O-1096



Digitized by the Internet Archive
in 2013

<http://archive.org/details/designforchristi00horn>

DESIGN FOR A CHRISTIAN SCIENCE CHURCH

BY

HARRY STIRLING HORNER

THESIS

For the Degree of

BACHELOR OF SCIENCE

IN ARCHITECTURE

COLLEGE OF ENGINEERING

UNIVERSITY OF ILLINOIS

Presented June 1909

1909
Ar 2

UNIVERSITY OF ILLINOIS

June 1, 1909

THIS IS TO CERTIFY THAT THE THESIS PREPARED UNDER MY SUPERVISION BY

HARRY STIRLING HORNER

ENTITLED ... DESIGN FOR A CHRISTIAN SCIENCE CHURCH

IS APPROVED BY ME AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE

DEGREE OF Bachelor of Science in Architecture

John Watrous Case

Instructor in Charge

APPROVED:

N. Clifford Rickel

HEAD OF DEPARTMENT OF Architecture



A CHRISTIAN SCIENCE CHURCH.

Pondering on the rapid increase of the Christian Science faith in recent years, the question may have occurred to many: What shall we find to be the architectural expression of a Christian Science church?

Christian Science church edifices are required solely for purposes of worship. No dinners, bazaars, or social functions are given in them. No provision need therefore be made in them for such features as social halls and catering facilities. They should be conveniently planned. Their vestibules and foyers must be large and spacious for Christian Scientists always linger in the foyers and vestibules and talk over the service with strangers. Thus the foyer of the Christian Science church becomes a prominent feature of the church, ranking second only to the auditorium itself. In all Christian Science churches check rooms are provided, convenient of access to the main entrance, one for ladies' and one for gentlemen's wraps.

The form of service of the Christian Science church is extremely simple, the musical part in most cases consisting of one solo, three congregational hymns, and the usual organ voluntaries. The service is read by two readers, reading alternately from the Bible and the Christian Science text book. No sermon is preached. Prepared lessons are read by the readers and followed by the congregation from pamphlets. Thus there is no especial need for the platform or rostrum to be distinctly visible from all parts of the auditorium.

The auditorium plan of church has been most successfully used, especially in the larger churches, as it permits a more economical arrangement of the auditorium and surrounding rooms.

The acoustics of the shape of room which this type permits are generally conceded to be better than any other form, and as the service is one which is to be heard rather than taken part in by the congregation, this develops into an important feature.

Sufficient exits to permit the building to be quickly and safely cleared should emergency require it, are absolutely essential and should always be provided.

As the classic styles are better adapted to the auditorium plan, more edifices are found erected in this style than in any other, though frequent examples are found in which the Early Christian and Gothic forms have been very successfully used, especially in the smaller churches.

Financing the building of a Christian Science church is done entirely by congregational subscription, but Christian Scientists never seem to have much trouble in this respect. One of the by-laws of the church prohibits the undertaking of building operations until sufficient funds have been provided to meet all contingent expenses.

Interesting statistics have been given by Carrere & Hastings, architects of the First Church of Christ, Scientist, of New York City. The building, as originally planned was estimated to cost \$300,000, and the amount in the church building but slightly exceeded this amount. When the dedication took place, by reason of alterations and additions, the total cost had reached \$1,185,000, and there was no debt.

DESIGN FOR A CHRISTIAN SCIENCE CHURCH.

PROGRAM.

The building shall occupy a whole city block, situated at the end of a long boulevard so that the building may be viewed as a mass from a distance. The block is surrounded by broad streets on all sides and is located a short distance from the business portion of a city of 250,000 inhabitants. The block is rectangular in shape.

REQUIREMENTS IN DETAIL.

(a) A large vestibule and foyer directly accessible to and near the street. This portion of the building shall be one story in height, lighted preferably from above, though side lighting may be used alone or in conjunction with skylights. Situated near the entrance and opening off the foyer or vestibule are two cloak rooms, having a minimum area of 1500 square feet each, one for ladies' and one for gentlemen's wraps. The foyer and vestibule is to serve both in a utilitarian and decorative capacity, as a lingering place for the congregation. It shall have a minimum area of 8000 square feet.

(b) An auditorium having a seating capacity of not less than 2000 people on the first floor and in the gallery. Provide sufficient entrances so that no exit will be overcrowded at the close of the service. The main feature of this room will be the organ and speakers rostrum. The seating is to be so arranged that the organ and rostrum is to be seen from any portion of the auditorium.

(c) Library and reading-rooms having a minimum floor area of 1000 square feet. These rooms should be accessible without traversing the main portion of the church and so that they may be used daily while the main portion of the church is closed to the

public. A small cloak room should be supplied for use in connection with these rooms.

(d) A directors' room having an area of about 500 square feet.

(e) Sunday school rooms with adjoining class rooms, capable of caring for about 400 pupils. These pupils range in age from six to twenty years, older pupils not being taught in the school.

(f) Treasurer's room with a fireproof vault for the storing of church records, moneys, etc. This room should have an area of about 200 square feet.

(g) Rooms for the readers, vocalist, and organist. These rooms are to be easy of access to the organ and rostrum and should have private connection to them. They should have a floor area of about 100 square feet each.

(h) Toilets, heating apparatus, ventilating apparatus, coal storage, janitor's rooms, etc. are to be located in the basement.

MATERIALS.

The principal material is to be stone. Constructional parts may be of steel, concrete, terra-cotta, etc.

DRAWINGS REQUIRED.

The main facade.

First floor plan.

Second floor plan.

Side elevation.

Longitudinal section.

DESCRIPTION OF THE DESIGN.

Schedule of rooms embraced in the design.

Basement:

Two toilets,
Coal storage,
Boilers and boiler room,
Fan room containing two fans, motor, plenum chamber, etc.
Janitor's room.

First floor:

Entrance foyer and lobby, 9172 square feet.
Two cloak and check rooms, 1488 square feet.
Auditorium, 17,000 square feet.
Ambulatories or passages, 1800 square feet.
Secondary entrance foyer and vestibule, 5376 square feet.
Library and reading room, 1500 square feet.
Sunday school rooms, 3480 square feet.
Directors' room, 650 square feet.
Treasurer's room, 240 square feet.
Cloak room, 350 square feet.
Stairways, minor lobbies, halls, etc.

Second floor and gallery:

Entrance lobby to gallery, 900 square feet each.
1st. reader's room, 100 square feet.
2nd. reader's room, 100 square feet.
Soloist's room, 100 square feet.
Organist's room, 100 square feet.
Sunday school class rooms, 1200 square feet,

Main gallery of auditorium, 7175 square feet.

DESCRIPTION.

Coming into the church through the main entrance the visitor finds himself in a spacious vestibule, above which is a small dome. On either side of the vestibule is a large foyer, the ceiling of which is formed of barrel vaults supported on either side by a double colonnade. The crown of these vaults is pierced by a skylight of glass mosaic through which softened light is admitted to the interior. At the end of the left hand foyer is a large cloak room for the use of gentlemen, while similar provision is made for the ladies at the end of the right hand foyer.

The main entrance to the auditorium lies on the main axis of the building, directly opposing the main entrance to the foyer. On either side are stairways leading to the gallery above. Entrances to the auditorium are also provided through small lobbies at the end of either foyer. These lobbies also provide access to the ambulatories running along either side of the auditorium and connecting the main foyer with the rear foyer. From the small lobbies, generous staircases lead down to the retiring rooms below.

The auditorium has been designed to hold a congregation of twenty one hundred fifty people on the first floor and in the gallery. The seating has been so arranged as to give each person an uninterrupted view of the speakers and at no greater distance than the speakers' voices would be distinctly audible. The ceiling of the auditorium is formed in the center by an immense pendentive dome, supported on arches. Outside these arches the

smaller portion of the auditorium is roofed with barrel vaults. Practically all of the light for the interior of the auditorium enters through the dome, thus giving the softened light desirable for a place of worship. At the rear of the auditorium are the readers' platform or rostrum and above it the organ with the space for the soloist and organist in front. On either side of the organ space are perforated tracery walls behind which are small rooms, in one of which is the apparatus for fire protection and in the other the vacuum cleaning outfit.

In the rear of the church is a large vestibule or foyer, similar to the main foyer in all respects. In the rear of this vestibule is a large staircase leading to the second floor on either side.

On the right of the vestibule is the space devoted to Sunday school purposes. This department consists of a small auditorium, two stories in height, covered with a dome, and surrounded with small class rooms on two floors.

Opening off the vestibule on the left is a corridor which permits passage to the reading room and library in the rear left hand corner of the structure. Opening from the corridor on one side is the directors' room, while directly opposite is the treasurer's room and a small cloak room for the use of the patrons of the reading room and library, and the Sunday school pupils.

On the second floor, the gallery is entered through small lobbies directly over the similar ones on the first floor. These lobbies open into corridors which communicate directly with the staircases. The readers', soloist's, and organist's rooms open

directly off these corridors. These smaller rooms also have private staircases leading to the rostrum and organ.

The building has been designed to be built of silvery white granite, a stone so uniform in color and quality as to give the impression that the building must have been carved from one huge, perfect block. The quarry from which this stone is obtainable is situated at Concord, N. H. It is one of the few white granite quarries in the United States, the product of which does not discolor with exposure to the air, the tendency being rather to grow more white with age.

The dome is to be built on a superstructure of steel, covered externally with bronze or copper. All external metal work is to be of this same dull bronze color.

Stone carving has been used as a means of decoration on the exterior but not in a lavish manner. Effort has been made to keep this portion of the design as quiet as possible and to use only beautiful forms of ornament.

Internally the building is constructed of white marble up to the cornice, above which it is ornamented plaster. The staircases are of white marble throughout. All lobby, foyer, and toilet room floors are of marble mosaic.

The auditorium floor is bowled to give the necessary view of the rostrum. This floor is of reinforced concrete construction, overlaid with litholin except in the aisles, where interlocking rubber tiling is used.

The woodwork and furnishings are walnut with a dull ivory mounting where decorative forms are used.

The exits are proportioned allowing 24 lineal inches of space per 100 people. The Chicago building ordinances require

but 20 lineal inches per 100 persons.

Twenty five per cent of the floor area of the auditorium is devoted to aisles. In the Auditorium theatre in Chicago the aisles occupy a trifle over twenty two per cent.

The pews are arranged with a distance of thirty-two inches, back to back. This gives a seating capacity of 2150 persons, allowing eighteen inches per person in the pews.

The Sunday school auditorium will seat one quarter the number of persons that the main auditorium accomodates, though not as large an allowance for aisles and seating in the pews was allowed.

BIBLIOGRAPHY.

The Architecture of a Christian Science Church.

O. R. Washburn and C. H. Cottrell.

Arch. Record, Vol. 15.

Christian Science Church Edifices and What They Stand

For.

Elmer Grey, Los Angeles, California.

Fine Arts Journal, Oct. '07.

Christian Science From a Musicians Standpoint.

Frederic W. Root.

Fine Arts Journal, July, '07.

Christian Science Church Architecture.

Solon S. Beman.

The Worlds Work, Jan. '06.

Christian Science and the Gothic,

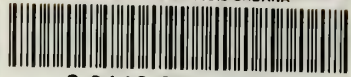
Elmer Grey.

The San Francisco Daily News, May 4, 09.





UNIVERSITY OF ILLINOIS-URBANA



3 0112 079093800